

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PST 2187 PCT		FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE 2003/001015	International filing date (day/month/year) 17.06.2003	Priority date (day/month/year) 15.07.2002	
International Patent Classification (IPC) or national classification and IPC C09K 3/00, C10M 173/02, E21B 43/22, F17D 1/17			
Applicant Akzo Nobel nv et al			

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 29.01.2004	Date of completion of this report 21.06.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Bengt Christensson/MP Telephone No. +46 8 782 25 00

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____ as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step, industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-10</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-10</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

The invention

The invention concerns the use of a drag-reducing agent. The agent contains two zwitterionic surfactants and an anionic surfactant. The invention also relates to the agent and injection water containing the agent.

The agent is intended for waters having a high electrolyte content.

The objective is met in that the zwitterionic surfactants contain an acyl group according to claim 1 and the anionic surfactant contains a sulphate, ether sulphate or a sulphonate group according to claim 1.

Cited document

D1) WO-A1-9628527

The use of a surfactant is previously described in D1. Betaine is used together with an anionic, surface active sulphate or sulphonate. The compositions are used in a water-based system for reducing the flow resistance (p 1, lines 4-8). The betaine has an acyl group (claim 1). The composition may be used where there are high amounts of electrolytes (p 3, lines 2-8).

Analysis

D1 is cited in the International Search Report as a document of particular relevance and is now considered to show the closest background art. The reason for this review is that claim 1 specifies that there are two zwitterionic surfactants, the acyl group has 12-16 carbon atoms and the weight of the three components are 20-95 %, 0-70% and 1-50% respectively.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: BOX V

These features are not revealed in D1. Consequently, D1 does not anticipate the technique of claim 1.

The use according to claim 1 is considered to give rise to an unexpected technical effect, i.e. the amount of the components is 50-400 ppm. Thus, this claim is not considered to describe a technique that is obvious to a person skilled in the art.

Since independent claims 7, 8 refer to claim 1, the contents of these claims 7, 8 also involve an inventive step.

Conclusion

In accordance with the arguments stated above, the invention in claims 1-10 is novel, considered to involve an inventive step and has industrial applicability.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 4 is unclear because it describes the weight of double bonds.

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